THE GENESEE FARMER.

VOL. VIII. ROCHESTER, N. Y. MAY 12, 1838. NO. 19.

PUBLISHED BY LUTHER TUCKER,

TERMS.—The Farmer is published every Saturday, making an annual volume of 416 pages, to which is added a Title-page and Index, at the low price of $2,50, or $2,00 if payment is made at the time of subscribing.

☞ All subscribers must commence with the volume, Jan. 1, or with the half volume, July 1. No subscription taken for less than six months.

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THE GENESEE FARMER.

SATURDAY, MAY 12, 1838.

ORCHARD GRASS.

The following queries are an extract from a letter by A. B. A. Esq., Buffalo:

MR. TUCKER—I am intending to stock down considerable land this spring, and I should really like to know whether orchard grass and clover have proved superior to timothy and clover on hard-pan lands. I see in late vols. of the Farmer, that Judge Bradley and others highly commend it, as ripening more equally with the clover, and yielding greater crops. I wish to know whether their experience since confirms the opinion, and whether their lands can be denominated hard-pan. Judge Peters also confirms the superior qualities of orchard grass, (see extract in Cultivator for March.) At what rate can I buy seed free from chaff; and how many pounds of such seed will it require per acre?

We have cultivated the orchard grass for several years, not to any considerable extent, but sufficient to justify in our opinion, the most favorable reports that have been made of it. The land on which we have cultivated it, is a hard-pan subsoil, (analysis shows it to contain of silex about 68, and clay from 25 to 28 per cent,) with from 8 to 12 inches of strong tillable soil. The seed was sown with clover and timothy, but the clover has mostly disappeared, leaving the orchard in full possession. It has been mowed once, and usually twice, every year since seeding, and the crop has uniformly been luxuriant. What seed we have sown, has been of our own raising; and have experienced no difficulty in its germination.

The reasons why, on our soils, we should prefer it to timothy for permanent pasture or meadow, are, the rapidity of its growth after feeding or mowing; its early start in the spring; and its being in the best state to cut, at the time the clover, with which it is usually sown, is in that stage of its growth in which it makes the best hay. We should not, however, recommend orchard grass on any soil which was to be subjected to the rotation or alternate system of husbandry, unless the intervals were to be long; experience having shown that its roots, and its great durability, render it more proper where permanence is required, than where it is to be frequently ploughed. For the latter purpose, and as an ameliorator of the soil, clover is unrivalled, its roots enriching the soil when ploughed in, and the leaves of the plant being more benefitted by the action of lime and gypsum than almost any other.

It has been objected to orchard grass, that it grows coarse, and makes a harsh and unpalatable hay. If this grass is allowed to stand too long, the charge may be true, especially where the growth is luxuriant, as it will be on most rich soils, but we know of no hay of which cattle are more fond, than hay of this grass when cut early. The truth is, to derive the full benefit of this grass, if in pasture, it must be fed close; if for hay, it must be cut before the stalk becomes wiry and hard. The aftermath of orchard grass is the heaviest known, and the early cutting allowed the first growth, greatly favors the securing the second.

In respect to the quantity of seed sown, and the manner of sowing, the following directions have been given by a gentleman of Pennsylvania, which we think well calculated to effect a proper seeding of the land. "In sowing the seed of orchard grass, care must be taken to distribute it evenly over the ground, it being light, (weighing but 14 or 15 lbs. per bushel,) and easily acted upon by the winds. It should not be mixed with clover or other seeds at the time of sowing, as the difference in weight will vary the extent of the cast. I have usually sown clover seed at the rate of about four quarts per acre, and afterwards followed with orchard grass, with one bushel on the same quantity of land." Others use more seed, putting on from 1½ to 2 bushels per acre, and thick sowing is likely to obviate one objection which has been sometimes made against it—that it grows in tufts, and does not make a thick close turf. It is principally by means of this grass, that the rich pastures of central Pennsylvania have been made, and there are few farms on which it will not be found a valuable acquisition.

The entire separation of the seed from the 'chaff' or its envelop, we think impracticable, and the manner in which it is offered for sale, shows that such is the case; its little weight per bushel, also proves that the seed envelop forms no small part of the measure. The quantity to be used per acre can be determined at once, when the weight per bushel is known. Orchard grass forms one of the kinds almost invariably used in seeding lands in England; and in this country some have preferred one bushel of orchard grass and one of Timothy, to two bushels of orchard; adding the four quarts of clover seed as above.

Many complaints have been made, that orchard grass seed would not germinate. This may sometimes have been owing to poor seed, for there is none more liable to spoil from heating, but oftener, we think, from the seed, after being long dried, being put into the ground without preparation; when fresh, none would seem to be necessary. In the Farmer's Magazine, is a letter from Mr. Falla, seedsman, to Mr. Sinclair, giving the following as the best mode of preparation. "The seed should be laid on a barn or other floor, and moistened by water from the nose of a watering-pot, turning it over frequently and increasing the moisture if necessary, for at least 48 hours, being careful that no heat takes place. By this time the seed will be well swelled, and the radicle ready to strike; and in this state it should be sown, and brushed in by a brush harrow." In addition to this preparation, some American farmers have, after soaking as above, rolled the seed in gypsum previously to sowing, and with the most decided advantage.

In common with Mr. A. we should be gratified to learn from Judge Bradley the results of his experience with orchard grass, and hope that at his convenience he will communicate the history of its cultivation with him.

LIVE HEDGES.

The March No. of the Cultivator contains a long and able communication on the subject of live fences, from Mr. I. M. Garnett, a gentleman of Virginia, in which he earnestly contends that such enclosures can never be extensively introduced in this country. Mr. Garnett, says:—

"I assume it as a proposition susceptible almost of perfect demonstration, that live hedges cannot be advantageously adopted in our country as a general system of enclosure. First, because they are actually more expensive in most situations than dead fences. Secondly, because there are no plants or trees heretofore tried among us, except the holly, sufficiently exempt from fatal diseases, and easily procurable, to render them a safe reliance for hedging. And lastly, because the present law of descents—throughout the United States, which will probably never be changed for the English law of entails and primogeniture, inevitably produces frequent subdivisions of landed estates, and consequently changes their boundaries and fences."

These positions, Mr. Garnett endeavors at length to establish, and we regret to say, that so far as experience has yet gone in this country, it must be considered as much in favor of the views he has taken of the matter. The moist, mild, equable temperature of Great Britain, seems peculiarably favorable to the perfection of the live hedge; while our hot, dry summers, and the extreme cold of our winters, appear equally to conspire against them. Great hopes have been entertained of the red cedar as a material for fences; but Mr. G. asserts that the best of them furnish no security against swine, as the lower branches decay and die out; and of the thorns none appear to keep vigorous and in full foliage during the heats of summer, when planted in the hedge. We are unwilling yet to believe, however, that in a country containing so many new varieties of trees and shrubs that flourish in our forests and in our fields in all the wild luxuriancy of nature, there will not be found some adapted to the purpose of live fences, impenetrable in their growth, and perfectly hardly and suited to our climate.

There can be no doubt, but that where stone can be procured, walls are the best and in the end the cheapest fence that the farmer can make; but as stone is not to be had in some parts of our country, and timber, if once plenty, is daily growing more scarce, there seems but these alternatives to our farmers either to allow their farms to go unfenced, or by the cultivation of hedges and the planting of trees which may be made available for fences, secure for future necessities a supply of living fence, or of timber which may be converted to this use. The planting of forest timber, is as yet scarcely known among us, but it should no longer be neglected; a few acres devoted to this purpose, will ere long add materially to the value of most farms.

LIQUID MANURES.

A most valuable pamphlet on the preparation, use, and efficacy of liquid manures, has been published in England by Mr. C. W. Johnson. To determine these points it became necessary to institute many new, and repeat many old experiments, to ascertain as far as possible the mode of nutrition in vegetables, and the manner in which they received, and, if the term may be allowed, assimilated their food. The different salts were mostly used as tests to determine whether the substance was received unchanged into the vessels of the plant, or whether it underwent decomposition, and became subject to new affinities. Some of these results were surprising, not only as proving that plants take up these substances in a state of solution, unchanged, but that they exercise a decided preference among the different articles presented to them. As proof of the first we may mention that 1450 grains of wheat chaff, grown on unsalted soils, yielded of common salt 2¼ grains; the same quantity grown on soil salted at the rate of 44 bushels to the acre gave 4 grains. The same weight of seeds from unsalted soil gave ⅛, and that from soils salted as above ¼ grains. As instances of the latter we may state that plants with their roots immersed in a solution containing equal parts of Sulphate of Soda, and Muriate of Soda, absorbed of the first 11, and of the last 22 parts in 100. Sulphate of Soda, and Muriate of potash, 12 and 17. Gum and Sugar, 26 and 36. This distinction, or preference, was maintained as long as they were furnished with their fine roots, but when the extremities were cut off or in any way removed the plants absorbed the solutions indiscriminately.

From the results established by the experiments recorded by Mr. Johnson, we think it may be inferred, that the roots are the chief organs for absorbing food in plants; and of the roots that the extremities only have the power of *preference*, or of determining what shall be received and what rejected.—That the soluble matters, consumed by plants are in general taken up by their roots unaltered; although in some few cases decomposed during their absorption.—And the just inference from these established positions is, that the more completely the manure offered to plants, or intended for them, is placed in a soluble state, the more fully will the object aimed at be affected. In using liquid manure no new compound is formed by the mixture; it is merely offered to the plant ready for use;

and in a state in which it is readily diffused in the land. Stable manure or night soil, mixed with four or five times its weight of water is apparently much less energetic than clear manure, yet experience shows that its use is decidedly advantageous, and produces most luxuriant crops. In this country little attention has as yet been paid to the subject of liquid manures; and many farmers who are very good managers in other respects, suffer the drainage of the farm yard and the house, with its rich freight of soluble matter, matter ready prepared for the use of plants, to escape in the easiest, and frequently in the most useless manner possible.

Garden Root Crops.

The soil for beets, parsneps and carrots, is best if it has been well manured the previous year, but if fermented manure is well mixed with the earth, they will succeed well. In the latter case, it will be better if the ground is prepared in the autumn, and again dug over in the spring. They all succeed best if the soil is *deep*, but *turnep beets* do not require so great a depth as the others. Parsneps and carrots should be sown as soon as the ground can be prepared in spring, but beets are more tender and liable to be injured by frost.

Beets may be sown in drills a foot apart, and about two inches deep, dropping the seeds along the drill about three inches apart. When the leaves are two or three inches in length, they should be thinned to six or eight inches. Those intended for *early* crops only should be sown early in spring; general crops succeed best if sown about the time of planting corn. The best varieties for the garden, and the Red Turnep Beet, the Long Blood, and the Yellow Turnep Beet.

Carrots should be planted in drills a foot apart and an inch or two in depth. In order that the seed may be sown regularly, they should be previously well rubbed to prevent their adhering to each other. When they have thrown out four or five leaves, they should be thinned to about six inches in the drill. The Early Horn is best for early crops, and the Long Orange for general culture.

Parsneps require nearly the same treatment in sowing as carrots, and should be thinned to about the same distance. They will stand through the winter where they grow, and may be suffered to remain till wanted for the table.

These roots, intended for seed, should be well selected, and planted up to their crowns, in the earth, at a distance of about three feet from each other. When the stalks are grown they should be secured from falling by fastening to stakes, or horizontal rails. As the seed becomes ripe, which is indicated by the change of color, it must be gathered by cutting off the ripe branches, and thus suffered to remain till perfectly ripe and dry, when it may be removed and cleaned. The seed first ripe should be kept separate, as it is best on account of its early maturity.

J. J. T.

Winter Squashes.

The following method, in substance, is recommended in an early volume of the N. E. Farmer, and as we know by experience, that it is a very certain mode of raising good squashes, we give it for the benefit of our readers.

A piece of ground not liable to suffer from drouth, free from shade and sheltered from wind must be selected. At the proper season plough it three times, or till it is mellow. Dig holes in the earth at about eight feet distance, that will contain at least a bushel; put into each three shovels full of strong manure, and a pint of dry ashes or lime. Compost taken from the hog-yard is preferable. Cover the manure slightly with dirt, and after a few days work it over thoroughly, and mix with it earth enough to fill the holes nearly. Repeat this working over two or three times in the course of ten or twelve days, and then plant the seeds from good ripe squashes. The plants will soon spring up and will undoubtedly be vigorous. The yellow striped bug is the principal enemy to be dreaded; and the plants from the first appearance of the bug should be examined twice a day, and the pest destroyed. Hoe frequently, leaving the surface of the hill in the form of a concave lens, and allowing only 3 or 4 good plants to a hill. The leaves of the squash, and the vines, should not be left liable to be blown about, but short brush or small sticks should be placed in the ground when the vines begin to spread, for the tendrils to lay hold of. The writer in the N. E. Farmer, from 100 hills raised between 4 and 5000 pounds; the ground occupied was about 80 feet square.

Horse manure will bring the plants forward rapidly, acting almost as a hot bed, but the plants are very liable to injury from drouth, and we have known cucumbers and melons entirely destroyed from this cause, where the holes were filled with such manure. Plants of the *cucurbitae* family can scarcely be manured to high, care being taken to prevent the effect of too great dryness in the soil, and where compost is used from the hog-yard, this evil is rarely if ever felt. Where the earth is inclining to be moist and cold, holes dug as above, and partly filled with horse manure, or that of a heating quality, and then covered with a sufficient depth of earth to prevent being dried up by the heat generated, may be advantageously used for melons, cucumbers and summer squashes. As a squash for winter, we prefer the kind called the tea-kettle, or acorn squash. Its qualities for cooking are at least equal, if not superior, to any other variety; and it can be kept, if preserved from frost and moisture, any desirable length of time.

New Publications.

Through the kindness of our friend, the Rev. H. Colman, Commissioner of the Ag. Sur. of Massachusetts, we have been favored with several valuable reports and documents intimately connected with agriculture, and of which we intend hereafter to avail ourselves, for the benefit of the readers of the Farmer.

The first we shall here notice, is the 7th No. of the Transactions of the Essex Ag. Society. From former notices, our readers are acquainted with the value of this annual publication; and we can assure them that the present number for 1837, is equal to its predecessors. It furnishes the most conclusive testimony, that the Bay state is not yet worn out, and gives cheering evidence that under a better system of agriculture, the progress of deterioration in her soils will be effectually arrested. The address, farm reports, &c. &c. are of the best kind, and deserving the perusal of every agriculturist.

The next is a Treatise on Bone Manure, and a Report on the cultivation of Spring Wheat, both from the pen of Mr. Colman, and both treated with his accustomed perspicuity and ability. We are glad to see him urging upon the attention of farmers in that state the use of lime, as we are confident *that* will restore to them the growth of wheat sooner than any thing else. Farmers every where should remember, however, that lime is not manure; and that to render lime effectual, vegetable or animal matter must exist in the earth for the lime to act upon, and that therefore a proper rotation of crops, in connection with the application of manure and lime, should be resorted to Accompanying these is an able report and resolves of the Mass. Senate, providing for a board of agriculture. This is a good move, and one which will add materially, we think, to the exertions of that state in favor of agriculture.

Next, and last for the present, is the first part of the Geological Re-examination of Massachusetts, by Professor Hitchcock. This part is devoted to the Economical Geology, or its reference to agriculture and the arts, and is a most honorable proof of the industry and ability of the worthy Professor. It is particularly rich on the subject of analysis of soils, giving some new views, and original methods, which cannot fail of being of great value. On the subject of Mineral Manures, and their mode of action, it is also very full and valuable; treating the subject with much originality, and throwing much light on the formation of earths, and the effect of their combinations. We shall hereafter endeavor to give a condensed view of his chapter on *geine*, or *humus*, the substance now supposed to constitute the food of vegetables, as it is a subject of practical interest to the farmer, involving the use and application of manures, particularly the mineral ones.

The publications we have noticed, may be considered the first fruits of the spirit of inquiry and improvement awakened in Massachusetts; and we trust her harvest fields of the coming autumn will show the agitation of the subject has not been in vain. Massachusetts has set a noble example of the investigation of her resources to her sister states, and she will receive her reward. We look with anxiety for the Reports of our State Geological Survey, not doubting that they will equal in interest and ability, those of any other section of our country.

Germination of the Acacia or Locust Seed.

Mr. Loudon in his Magazine of Natural History, states that Sir John Herschel lately sent some seeds of the acacia from the Cape of Good Hope, with directions to scald them to ensure their growth. Mr. L. having received some of them, subjected them to the following experiments:—two were placed in boiling water, and left to soak for an hour, until the water had become cool; two were kept at the boiling temperature for 1½ minutes. Some were sown immediately under a hand glass in the open border; and the rest were kept for 3 or 4 days and then sown in a hot bed. The following are the results:—

Under the Hand glass.

1	boiled 1½	minutes	failed.
1	do 3	do	came up in 14 days.
1	do 6	"	" " 13 "
1	not steeped at all		did not germinate.

In the hot bed.

1	boiled 1½	minutes	came up in	8 days.
1	" 3	"	"	7 "
1	" 6	"	"	7 "
1	" 15	"	"	13 "
2	in boiling water left to cool			9 "
2	not steeped		came up in	21 "

Nothing can more forcibly show the hardness of the envelopes, or the tenacity of life in the acacia, than the germination of the seed after boiling 15 minutes. We have a number of times scalded the locust seed to produce germination, no other mode being so speedy or effectual.

Charcoal and Onions.

From a number of experiments recorded in the foreign Journals of horticulture, as well as in those of this country, it appears that charcoal dust is one of the best dressings for land on which onions are to be grown. In some of these instances the scrapings of the beds where coal had been burned and drawn, were strewed on the garden to the depth of half an inch, and incorporated with the surface earth by raking only, to the manifest advantage of the crop. We have seen fine onions raised on the places where coal has been burnt, several years in succession, and without a failure, while those sown in other places were not half a crop. We have known some instances in which the garden beds were prepared some weeks before sowing, and left for the weeds to start, the seeds of which were near the surface. When the time had arrived for sowing, the beds were covered to the depth of ten or twelve inches, with dry straw, and this was set on fire. By this means the surface of the earth was slightly burned, the soil warmed, the weeds extirpated, and an excellent dressing equally applied. If it appeared that one covering of straw was not sufficient, another was spread and burnt, and then the seed was but in, the surface being first slightly stirred with a rake. This method we have never known to fail; and think it might be useful in most cases where the onion is grown, especially on lands rather inclining to be heavy, or which contain the seeds of weeds.

Preparing Beet Seed.

The growing of the Mangold Wurtzel, sugar beet, &c. being rapidly on the increase in this country, and complaints being frequently made that these seeds will not vegetate, it may be well to remind the farmer or gardener, that these seeds should be soaked until the seed is softened or ready for germinating, before it is put into the earth. The seed of the beet in all its varieties is enveloped in a hard woody substance, as may be seen by cutting it open with a knife, and unless the state and temperature of the soil is favorable, it not unfrequently fails, and disappoints the grower, as well as attaches unde-

served blame to the seedsman. The following directions are given by an English writer of much experience. "I put the seed (mangold wurtzel) to steep in a large flower pot, mixed with some sand or sifted mould; this I place in a hot bed. giving a good supply of water. After remaining here for twenty four hours, I have it taken up, and the mould sifted out, or the seeds picked out by hand. In this way I have the seed over ground in five days, and perfectly free from any failure. When the plants get strong and rooted, I have them thinned to nine inches. Should it be necessary to transplant any, I have them put into a puddle made on the head-land and left there four or five days until they make fresh roots, then have them set with the spade or dibble, not deep in the ground, but so far as to allow them a sufficient hold. Beets transplanted deep do not succeed so well." There are many other seeds besides the beet with which this forcing process might be advantageously adopted. All such as require to lie in the ground some time to germinate, when planted in the usual mode, may be hastened and rendered more certain by soaking in earth kept at a proper temperature.

Wheat.

That there is an abundant supply of material for bread in our country at the present time, does not admit of a doubt; and those who are importing it from abroad will find they are engaged in a business about as profitable, as that of 'carrying coals to New-Castle?' There was, it is true, a partial failure of the crop of winter wheat last year, but this deficiency was more than supplied by the increased quantities of spring wheat sown, and the general excellence of that crop. In most parts of the country the success was decided, and more heavy yields to the acre have been recorded of the spring wheat of 1837, than of any previous harvest in the country. The trifling bounty offered by Maine, not only seemed to give new spirit to the farmers of that state, but new powers to the soil; at least cultivation has proved it to possess a fertility not before suspected. In one instance 178 bushels were taken from 4 acres of land, and the cases in which more than 35 bushels were grown are numerous. In this state 100 bushels have been taken from two acres, and a multitude of other great crops have been recorded. The quantity sown the present season in the country will be immense; and the demand for good seed is unparalleled. Massachusetts is engaging in the production of wheat with praiseworthy energy, and under her system of imparting knowledge and active encouragement, she can scarcely fail of succeeding. This is encouraging;—let the earth be made to yield its increase, and there is actual wealth produced; let the productions of our soil be abundant, whether in bread, wool, or cotton, and the balance of trade will cease to be against us; in short, when the agriculturist prospers in his labors, all goes well, and every department of industry, every profession, and every individual, government and people, feel the reviving, and economically speaking, health-restoring influence.

Enquiry.

Mr. Tucker—There is a difference of opinion among some of my neighbors in regard to the comparative value of the potato and the common English Turnep, for feeding cattle. Perhaps here and there a reader of your paper may be as ignorant on the subject as I am, and feel equally obliged for your opinion. G.

Taking the analysis of Davy as our guide, we should arrive at the conclusion that the common turnep could be of little value for fattening animals, it standing at the lowest point of the scale in nutritive qualities. According to Davy, the roots rank in the following order.

Names.	Nutritive matter in 1000 parts.
Potato	250 to 200
Red beet	148
Mangold wurtzel	136
Carrot	98
Parsnip	89
Swedish turnep	64
Common turnep	42

According to Von Thaer, who is great authority in agricultural matters, 100 lbs. of the Common Turnep, are equal to 22 of hay; "and an ox to fatten on them will consume about one third of his weight in turneps daily." We have had no experience in feeding cattle on the common turnep, but from its great use in England in fattening sheep, should be inclined to attribute to it a greater nutritive effect than the above table would indicate. Chemical analysis has laid agriculture under very great obligations, but where the comparison is to be between chemical manipulation, and the results of vital organization, we find the former cannot always be depended upon. Our experience in feeding potatoes to animals has not been of the most favorable kind; but had we steamed them before feeding, we doubt not the result would have been far more flattering. The potato fed raw is very apt to induce scouring, and such a state is incompatible with rapid fattening. For several years past we have used the ruta baga for feeding cattle, and with a success which has left no disposition to return to potatoes or even grain in fattening. An ox will eat a somewhat greater quantity of ruta baga than he will of potatoes, but he is much less liable to cloy, or suffer from looseness, and will thrive quite as rapidly. According to Davy one bushel of potatoes contains as much nutritive matter as four of the ruta baga; we should think however, that an animal that eat three bushels of turneps a day would fatten as fast as one that had two bushels of potatoes, both to have what hay they choose to eat. At this rate a bushel of raw potatoes would be equal to one and a half of ruta baga, in nutritive effect; and the difference would be still greater in the case of the common turnep.

It will be seen that these remarks are somewhat conjectural, and if any of our readers have made experiments that bear on the above enquiry, we should be happy to lay them before our readers.

Western Salt.

The abundant supply of salt, one of the most indispensable articles in domestic economy, and equally required by man and brute, found furnished by a kind Providence over the whole vast extent of country west of the Allegany ranges, may be considered as one of the most remarkable features of this important region. In some places it appears in the form of springs or running water strongly impregnated with salt—in others it seems embodied in vast reservoirs, deep in the earth, only to be approached by boring—and in others in the form of rock salt, and that in immense quantities.

Of the first class are the innumerable springs known to the first settlers as '*deer licks*' from these animals being attracted to them by their fondness for the salt with which the water was more or less impregnated. We have seen the vicinity of some of these favorite watering places, hard trodden by the deer that flocked to the spot, and the well beaten paths which centered at the lick, showed it had been used from time immemorial. Of the springs of this class, those around the Onondaga lake are the most celebrated, being of the greatest strength, and pouring forth the greatest volumes of water. Springs however that are valuable have been found in Cayuga and Oswego counties in this state, and some new ones that promise well have recently been opened in Michigan. The springs at Salina furnish from two to three million bushels of salt annually, much of it of the best quality, and afforded at an average price of about $1,50 a barrel of five bushels.

Of the second kind of salt springs, or those produced by boring, those on the Great Kenhawa river are the most important, though there are many others scattered over the Ohio valley which seem to proceed from the same source. The Kenhawa works are owned by a company, that manufactures and sells the salt at a fixed rate, reasonable perhaps, but still much higher than it is sold for at Onondaga. The water being weaker, the time and expence of evaporation is greater, though the Kenhawa salines have the advantage of inexhaustible beds of coal at a distance of from only two to three miles, and it is delivered at the works at about $2,50 a ton. The quantity made is increasing in proportion to the wants of the west, with which the manufacture will probably keep pace. At present it amounts to about two millions annually, which is principally sent down the Ohio river and distributed on its various tributaries. The water is procured by boring the rock to an average depth of 400 feet, though some of the borings have reached 600 feet; and the water is pumped with steam engines. While Onondaga supplies the valley of the great lakes, that of the Ohio depends on the Kenhawa salines; another resource remaining for the Mississippi.

Perhaps no part of the world is more richly provided by nature with lead, iron, and salt, than the country west of the Mississippi. Salt springs abound, but they will in all probability be superseded by the mineral in its native state or rock salt. In boring for salt water in the county of Marion, Missouri, the auger passed through a large bed of pure rock salt, of excellent quality, and at the depth of about sixty feet. One of the upper branches of Red river flows for miles between mountainous banks of fine rock salt, and when required for use, can be without trouble placed in boats, and floated wherever wanted.

One of the arguments used by Mr. Jefferson to show the value of the territory, and justify the acquisition of Louisiania, was the inexhaustible quantities or mountains of iron and salt it contained. This assertion formed a standing butt of ridicule with his opponents; the fact was positively denied, and the whole treated as the dream of a visionary. One of the most satirical attacks of Dr. Caustic, alias Mr. Fessenden, late the able and talented editor of the New England Farmer, was directed to this point. The investigations made by order of government, the reports of the exploring parties which within a few years have traversed the country in every direction east of the Rocky mountains, and the active researches of the enterprising men engaged in the fur trade, have, however, proved that the reasons assigned by Mr. Jefferson were no fiction, and that his representation did not equal the actual mineral riches of the far west.

Bread from grown Wheat.

It is well known to the housewife that good bread is made with the greatest difficulty from germinated or grown wheat. This is owing to the partial or entire destruction of the gluten, or that principle which causes bread to be light and porous, by the germinating process. Chemistry has discovered that in addition to the inferior quality of the bread, such grain contains a considerable quantity of prussic acid, to the development of which the peculiar taste and flavor—not an unpleasant one—is owing.

In the year 1817, the grain in France, owing to the wetness of the harvest month, was got in, in a very damaged state. Apprehending that injury would ensue in consequence of the extensive use of this damaged grain, the French government instituted a special commission, to enquire into the state of the grain crops, and report the best methods for its management, and the making of bread from the flour:—the latter of which is as follows:

"As the yeast is the principal agent in the fermentation, nothing is more important than that it should be procured in the freshest and best state. All potable waters (waters fit for drinking) are good for baking; the best flour imbibes about one half its weight of water; middling good, from a fifth to a fourth. The temperature of the water should be in an inverse ratio to that of the air,—that is, as much colder as the air is hotter, and *vice versa*.

"The baking of flour which has been made from germinated wheat, ought to be proceeded in with much greater rapidity than that of flour from grain in no way injured; because the gluten of such flour having been more or less destroyed, the process of its fermentation goes on much quicker. The water employed should be of less warmth in all these operations; the dough should be kneeded more firmly, and divided into loaves of smaller size; the batch should be put into the oven a quarter of an hour sooner than usual, after it is completed; the oven should be raised to a higher temperature; the bread should be left in the oven only 45 minutes, or less, instead of an hour, as in the ordinary case, and it ought not to be given out for consumption till two or three days after it is baked.

"The sweet corny taste which is discernible in the brown loaf, arises from the skin which immediately envelopes the farina not being removed, as is done in the fabrication of fine meal; but this flavor can be retained in bread made of superfine flour, by mixing the dough with water in which a quantity of bran and pollard (or shorts) has been mixed."

TURNEP CULTURE.

(*Concluded from page* 138.)

After the sowing has been completed, the plants generally make their appearance in ten or fourteen days, and if the soil and weather be favorable they will grow into what is called the 'rough leaf,' when they are about two inches high. The process of horse hoeing then commences, by running a small single horse plough up and down between the rows, as near as it can pass without injury to the crop. The result of this first ploughing is shown in figure 17, *d*.

Sometimes instead of the horse plough the cultivator is taken for the first dressing, the wings being guaged to the proper width, and stirring the earth between the rows.

"Within two or three days afterwards the operation of hand hoeing commences, which is performed by the laborer going along the drills with a gardener's hoe, having a blade of about eight inches in breadth. With this he stands opposite the rows, and at one stroke across the ridge he cuts out the plants at regular distances, leaving them standing singly with a vacant space of at least nine or ten inches between each; thus thinning them sufficiently, and leaving room for the roots to grow to the proper size."

Within a fortnight or three weeks, the weeds will again spring up and the horse hoe must be again passed between the rows, and the plants cleaned by the hand; all sprouts are now cut out, and care taken to leave only single plants in the ridges.

This horse hoeing generally concludes the culture, as the leaves are now broad, and covering the soil, prevent in some degree the growth of weeds; but sometimes, if the weather is unusually moist and warm, it may be advisable to turn back the earth taken from the plants by these several hoeings, using the plough adopted at the first dressing; cleaning the plants after the plough, with the hand hoe. A glance will show the appearance of the rows, and also show that the ridges will in this way be kept drier than in any other, a thing of consequence where the soil is inclining to be moist. The plant will now grow rapidly without further care, the leaves of a good crop covering the entire surface, and exhibiting the appearance seen in fig. 17, *e*.

The product of the turnep crop though always valuable, varies much according to the soil, manure, and culture. The average in this country may be stated at about six hundred bushels per acre, though crops of one thousand bushels are so common as to excite little surprise or remark. The Swedish turnep is more solid and heavy than the common turnep, and their nutritive properties are in about the same proportion. Dickson, in his survey of Lancashire, states "that on weighing a Windhester bushel of good roots of the ruta baga, and the common turnep, the first weighed 88 lbs. and the latter only 60, a statement which has been confirmed in many instances by other experiments." Davy states the nutritive matter in the common turnep at 40 parts in the 1000, and that of the ruta baga at 64 in the 1000, and the rate at which they are eaten by animals shows that the chemist was not far from correctness in his estimate of their respective products. In the Northumberland Ag. Rep. it is stated that "on the 16th of March four tups of the New Leicester breed were put up in one pen, and eight draught ewes in another, to be fed on the common Norfolk globe turneps, freed from their tops and fibrous roots. In eight days the 4 tups ate 1,003 lbs. or on an average 31¼ lbs. per day.—In eight days the 8 ewes ate 895 lbs. or on an average 15½ lbs. per day.

The whole were then put on Swedish turneps, sliced, weighed and given regularly three times a day; of which, in eight days, the 4 tups ate 553 lbs. averaging 17½ lbs. per day.—In eight days, the 8 ewes ate 544 lbs. averaging 8½ lbs. per day.

It may be remarked however that an experiment in November might not show so great a difference as the above, as the common white turneps grow light and less nutritive much earlier in the season than the ruta baga. Von Thaer estimates the value of turneps when compared with hay as 100 to 22; that is 22 lbs. of hay are equal to 100 lbs. of turneps.

Turneps have comparatively few diseases, though they are liable to the attacks of several insects, which devour them in great numbers. The diseases to which they are subject mostly is the mildew, 'fingers and toes,' the 'anbury,' or fomation of excrescences on the root, &c. but they are rarely troublesome in this country, and may in general be referred to repeated crops on the same soil, bad seed, improper soils, or other accidental causes. Of the insects, the most destructive are the turnep fly, which sometimes destroys the whole crop before it reaches the rough leaf, after which it is safe from them; the plant louse, or aphis, which sometimes multiplies to a prodigious extent after the plants have attained to a considerable size; and the black canker, a species of caterpillar that commits great depredations at times in the turnep districts of England, though as yet scarcely known in the United States. For the fly the remedy recommended by Sir Humphrey Davy, is a composition consisting of "three parts of soot and one part of quicklime, slacked with urine, about four bushels of which per acre is to be let fall into the drills with the seed." Two advantages are derived from this compost, the volatile mixture of the alkali is offensive to the insects, and they also afford a highly stimulating food to the plants, which by a rapid growth are the sooner out of danger.

Like most other cases where the aphides become troublesome, the surest way of preventing their extension is to destroy the colonies on their first appearance. The multiplication of this pest is so rapid that if it is once allowed to obtain any considerable foothold on any plant, it may be considered as fatal to its growth and perfection. Several substances have been recommended as washes to be sprinkled on plants infested with the aphis, but so far as our experience goes, prompt excision is the only effectual remedy.

The caterpillar when it appears on the turnep, is, like the one which attacks the cabbage, very verocious and destructive, and increases with great rapidity. As these worms are the most moving and active in the night, heavy rolling in smooth grounds has been found useful, but on rough or stoney land they will mostly escape. Ducks, where they can be obtained, are successfully employed in devouring them, and Mr. Coke of Holkham, had a field of thirty-three acres effectually cleaned in five days, by a flock of four hundred.

One great advantage which the cultivation of the ruta baga has over most other roots, is the facility with which it may be preserved until wanted for feeding. In England they are never covered, even if gathered; but the most common practice is to let them stand where they grow, unless they are to be followed by wheat, and draw them during the winter and spring as they are wanted. In our climate such a course would be fatal; as the long continued and severe frosts spoil them and render them useless and putrid. But there is no root so easily preserved either in the cellar or by pitting, as the turnep; and the farmer who used the same or similar precautions that he does in the case of the potato will rarely suffer loss in their preservation. If pitted in the field not more than 25 or 30 bushels should be heaped together, and if covered fully with straw and earth at first, there should be a vent left at the crown of the heap for the escape of the heated air, which opening may be closed on the approach of severe weather. Where large quantities of roots are raised, barns with cellars under them, capacious in proportion to the wants of the farm, must be provided, and secured against frost by banking, &c.

There are very few of the domesticated animals that will not readily eat the turnep; and where any repugnance at first exists, it may be overcome by mixture with other food, and increasing the quantity by degrees. Cattle, horses, and sheep, thrive and fatten upon them, and some experiments show that steamed and combined with corn or barley meal, the latter in small proportions, they are valuable for fattening swine. In England and in this country they are principally used for feeding sheep, and as food for this animal they are invaluable. No animals suffer so severely from the privation of green food as the sheep, and the turnep as an article of food comes forward when most needed to supply the deficiency. The experiments of Curwen and other English farmers on the value of the turnep when mixed with straw and fed to horses, as a substitute for oats, may be found in the first No. of the current volume of the M. Farmer; and these experiments have been fully corroborated by some that have been made in this country. For fattening oxen and sheep, the turnep is without a rival, when the rapid advance of the animal, and the cost of production, are both taken into consideration. There was for a time an unfounded and unworthy prejudice against the quality of the beef and mutton so produced, but like most opinions founded in error, the notion is gradually giving way to the proofs offered by experiments, proofs which are daily multiplying. Some of the finest beef and mutton made by the farmer, or offered in our markets, are fed from the turnep, and the rapid increase of the culture furnishes the most decisive tests of the utility and value of the root.

Turneps, though frequently fed to animals without cutting, are better when cut or rasped, and those who use them the most extensively have adopted machines to make them fine, and at the same time dispense with the labor of hand cutting. Mr. Colt of Pittsfield, who keeps a considerable stock of cattle, a thousand sheep, and annually raises several thousand bushels of turneps, grates his turneps and mixes them with straw for his cattle. He has ascertained by actual experiment, that the difference in favor of turneps and straw, over hay, in keeping 14 head of cattle 150 days, is sixty-three dollars. In Loudon's Ency. of Ag. and in the Brit. Hus. may be found several cuts of turnep cutters, some intended for operating in the fields, and some as fixtures. In England, on farms where it is extensively fed, the cutter is attached to wheels like those of a two horse cart, the high box constituting the hopper, and as the horse moves forward the roots are sliced and scattered over the turf for the use of the flocks. The following is a description of one of the best and simplest kinds from the Brit. Hus. "The cutting part consists of a flat steel knife, placed upon a vertical iron wheel (a wood one will answer) which is turned by a crank. The turneps are put into a hopper which stands in a slanting direction to the face of the wheel. By turning the crank, the knife passes across the lower end of the hopper, slicing the roots into pieces half an inch thick, which fall into a box or basket underneath. When it is required to cut them into smaller pieces, a set of small knives are added so as to stand crosswise before the edge of the knife, and like that secured to the wheel. These in passing the roots cut each slice into strips about an inch wide." Some of our farmers, however, who grow turneps extensively, consider machines as useless and prefer cutting by hand; and our experience in feeding them to cattle would seem to justify this view of the matter: but when fed to sheep, they will be eaten cleaner, and the feed more equally divided among the flock, when sliced by such a machine as the one described above, than when fed whole, or in larger pieces.

Waistell in his Designs, &c. asserts that "turneps should never be given to fattening animals without being previously washed. The earth upon unwashed turneps scours the cattle, and keeps their bodies too loose and open, and their dung is thin and almost liquid; while that from washed turneps resembles the dung of cattle fed on hay." There can be no doubt that turneps or potatoes intended for food, should be made clean, and if grown on proper soils, and gathered in good weather, there will not dirt enough adhere to these roots to prove injurious to stock; but it requires little observation to convince any one that greater cleanliness would be a decided improvement in feeding animals, whether of turneps to cattle, or potatoes to swine.

He that by usury and unjust gain increaseth his substance, shall gather it for him that will pity the poor.

COMMUNICATIONS.

PROTECTION OF SHEEP.---No. 3.

Mr. Tucker—I avail myself of an inclement day, and proceed to establish the two propositions, viz: that *protection will improve the quality of the fleece, and increase its weight.*

Reader, have you ever observed the little urchin whose head has been exposed to rain and sun, and which stern want has denied, perhaps, the means of a covering? If so, did you remark the harsh, coarse, and, I may say, lifeless appearance of his hair? Look at that little fellow, whose fond mother compels to wear his hat, lest his rosy and delicate complexion becomes impaired by the operation of the sun's rays;—how soft, lively and beautiful is his hair; it is thus so, in part, from being *protected* by a hat.

Now go with me to some field, and beside a hay or straw stack, see that lopped-eared, long, coarse-haired animal; it is a horse. The master has turned him out to weather the storms of "dread winter;" his condition is tolerable, but feel his hair; how coarse and harsh it is. There is another quadruped beside him; it is a cow—spiritless, and her coat of the same character as her companion, the horse.

Let us now take a peep into the stable;—see that animal with his bright and shining sides;—look into the stall of the ox, and feel how soft is the texture of *his* coat—or look at the cattle of the barn yard, which have had a warm shelter provided for them;—all these examples show us the benefits of protection, in reference to the *improvement of nature's covering*, to say nothing of their greater vigor and healthful condition. These cases are analogous to the subject before us.

If there are any of your readers who doubt that sheltering will improve the quality of the fleece, I will suggest a cheap method by which it can be thoroughly tested. Select in the fall two sheep of equal quality as regards wool; jacket one of them, as it is called, by covering the body of the animal with an oiled, or painted canvass, in order that it be impervious to rain, and let it be kept on until shearing time; allow the other to go at large without a jacket, or shelter, and the result, after comparing the two fleeces when shorn, will clearly establish the point in question. But the position, under consideration, is too important to be passed over lightly; I will, therefore, having my invoices at hand, give the result as stapled at the Middlesex manufactory, exhibiting the clips of 1835 and '36. The winter of 1834 and '35 my sheep were *not* sheltered; the following winter *they were.*

The two tables, as below, will show the difference—in that of '36 there will be seen a very considerable increase of the finer qualities. But, I will further state, I sheared about 200 more in '36 than in '35, and those I disposed of during the interim of the clips, consisted, mostly, of those inclined to age, and *not altogether* my coarsest; so that the improvement can be ascribed to no other cause than sheltering.

Clip of 1835.		*Clip of* 1836.	
3 lbs.	wool extra,	12 lbs.	extra,
62½ "	" prime,	186 "	prime,
743 "	" 1st,	1470 "	1st,
1092 "	" 2d,	1169 "	2d,
1058 "	" 3d,	879 "	3d,
260 "	" 4th,	199 "	4th,
72 "	" 5th,	37 "	5th,
12 "	" 6th,	9 "	6th,

Say not, ye who disregard your own interest—who think that protection is an infringement of the practice of your grandfathers, and, therefore, must be wrong—and who reject each and every experiment which is made to promote the great cause of agriculture, that the difference, as above exhibited, might as well be ascribed to some *mistake* of the sorters. If you really think so, go to that immense establishment, the Middlesex manufactory, at the head of which are the Messrs. Lawrence of Boston,—men who are models of intelligence and enterprize—and observe for yourselves, not only the genius of man displayed in the invention and construction of the machinery, but the order, discipline, and wonderful accuracy and system which characterise every department, or division of labor. While you are there, *observe the sorters*—how nice and exact in selecting the various qualities of which a fleece is composed, and putting each in its proper place;—their accuracy is the result of daily practice. If you will not be convinced after seeing all this, that there is *no mistake*, harder than the nether millstone must be thy understanding.

Believing for myself, and trusting that your not too skeptical readers are convinced that I have sustained the first position with sufficient strength, I proceed to the second, viz: that protection will increase the weight of fleece. For the support of this, I shall rely entirely upon the results of my own experience.

All my shearings previous to that of 1836, (for before that, it will be remembered, my sheep were not protected,) the average yield of wool per head was only from 2 lbs. 7½ oz. to 2 lbs. 9 oz. These variations I could ascribe to no other cause than the difference of winter season; being colder or milder; for, when the latter, an increase of weight was a certain consequence. Of the clip of '36, the average was 2 lbs. 10½ oz., notwithstanding, 300 of the flock were yearlings, which, all wool-growers are aware, yield but light fleeces. I will here state, that on a distant farm some of my shelters were *then* mere hovels, imperfectly made, (and in truth little better than none at all,) so that 500 wethers fared badly; but notwithstanding this, the gain per head was 1½ oz. beyond any former yield, making, in the aggregate, 141 lbs. producing the snug little sum of 104 dollars. I will digress for a moment. As the prices of wool of last year were too unsettled to form any correct judgment of the grade or quality of sheep, I will state, that the two years previous to the last, my wool sold in the Boston market, for cash, at about 75 cents per lb. Your readers can now form some estimate of the grade of my flock, &c.

But the last clip tells the story honestly and fairly, for *all* my shelters were such as they ought to be, made tight, and, therefore, warm. The number of my flock, sheared, amounted to 1751, including 470 yearlings, and the entire product was 5082 lbs., making an average of over 2 lbs. 14 oz. per head. With all those, doubtless, who are inexperienced in the growing of fine wool, this may seem *not* an extraordinary yield; but those who are, especially when the number of yearlings is considered, know *that it is*, and that fine and light fleeces go hand in hand. The gain per head was 5 oz. *over any yield previous to protection*, and the aggregate quantity 547 lbs.; and provided my wool had brought the price of the year before, as above stated, the pecuniary gain would have amounted to 400 dollars. Here, Mr. Editor, is a strong point, and as the professional gentlemen say, I might rest the case. But I wish to make another strong one, for *pecuniary* arguments speak "trumpet-tongued," and invariably carry conviction to the *pocket.*

Cast your eye again, if you please, to the tables, and observe the difference in quantity of the four first sorts, of the clip of '36 over that of '35, viz: 9 lbs. more of extra, 123½ lbs. of prime, 727 lbs. first, 77 lbs. second, in all 936½ lbs. The wool of 200 more sheep is included in the second table, but making a fair distribution of it throughout the list, and the gain (for the price of each quality is designated in the invoice) is about 120 dollars; and yet this is the smallest part of the reward of protection. Are not sheep grateful? Do they not reciprocate every benefit conferred on them? Truly they do. They return to your pockets in *the saving of life, improvement of fleece*, and *increase of its weight*, ten dollars for every one you expend in providing the means of protection.

For the present, I have done with the subject. I have urged protection of your sheep for the sake of humanity; I leave it, scattering dollars and cents in the path marked out, which only needs to be followed, to find and gather up.

L. A. M.

Lansing, Tompkins Co.

Improving Tenacious Subsoils.

Mr. Tucker—In common with many readers of the Farmer, I have been interested in the papers that have appeared on the management of hard-pan or tenacious subsoils, particularly with the one from the pen of Mr. Allen of Buffalo. His plan for the amelioration of such soils as he considers his to be, is unquestionably one which will succeed admirably. Lands which contain from 70 to 75 per cent of silex, as does that with which he compares his, and with only 8 or ten per cent of clay, if turned up in the fall and subjected to the pulverizing effect of frost, will, in the spring, be found loose and friable, and will readily admit and support crops till their roots can reach the reversed surface earth, with the manures deposited below. If, however, his subsoil should contain from 20 to 35 per cent of clay, as some hard-pans certainly do, its density would prevent the infiltration of nutritive matter from the surface, and if brought to the surface from a depth of 20 or 24 inches, would I think, notwithstanding the action of the frosts, be in a very unfit state for the reception of a crop without further pulverization and surface manuring. I do not mention lime, as that is supposed to be equally present in both cases.

I was disposed to think favorably of the subsoil plough, of which a notice and engraving has been given in the Farmer; and I must still think that where the subsoil is of a nature that renders it unfit to be placed uppermost, until partially penetrated with nutritive vegetable or animal matter from the surface, that such a plough would operate well. By breaking and rendering pervious the hitherto impenetrable subsoil, the surface would be relieved of surplus water, though not more effectually perhaps than by Mr. Allen's plan, and the infiltration of surface soil, vegetable matter, and manures, would, I should imagine, render such a soil productive to the lowest depth reached. I am the more confirmed in this opinion from the facts that the use of such ploughs is rapidly extending in England, that they are highly spoken of in the latest farming periodicals and reports of that country, and that Mr. Colman in his late Agricultural Report to the Mass. Leg. has given engravings of the plough described in the Farmer, with another one intended to produce the same effect, but more simple I should think in construction, and urged reasons for the beneficial results that must ensue from their adoption in cultivating a large class of our subsoils, that I think unanswerable.

I must however, much as I admire his general reasoning, be permitted to dissent from Mr. Allen in the reply which he gives to the last objection he supposes will be raised to his system, which objection is in these words.—"Land ploughed up from this depth, would be barren for years, unless manured by fourfold more heavily than we could hope to do." To this objection Mr. Allen replies by *denying in toto* that such a result would be produced; and referring to the analysis given in No. 12 of the current volume, cites an instance in which soil, to the eye, taste, and smell, precisely similar to that, except that it was barely possible it contained a trifle more of vegetable matter, taken from the depth of six feet, and subjected to the action of frost, gave a tolerable crop.

A moment's reflection I think, would have convinced Mr. Allen that the validity of the objection would depend entirely on the nature of the earth raised to the surface by this deep ploughing; and that while in one case the plough could not be made to run too deep, in another the result deprecated by the objector would most surely take place. That *some* subsoils are unfit for vegetation, I have the highest authority for asserting. Chaptal says—"Deep ploughings are very advantageous to lands which are of the same nature to a considerable depth, since, in addition to the good effects arising from the operation itself, those parts of the soil which have become impregnated with manures, that the rains have carried down from the surface, are thrown up to contribute to the nourishment of vegetation." * * * "But deep tillage does not belong to all soils, nor is it of use under all circumstances. For instance if a soil is situated upon a strata of earth charged with black oxide of iron, or upon a bed of marl,

the mixture which would be produced by deep tillage, would reduce the land to almost entire sterility for two or three years. *I have myself experienced this result and speak from personal knowledge.*" * * * "When Mr. Fellenburg wished to verify his principles of cultivation upon his estate at Hofwyl, he had his land broken up to the depth of three or four feet, and it produced nothing till the end of three or four years." The testimony of Von Thaer in Germany, and Mr. Colman in this country is equally decisive.

In determining whether it would be advisable to reverse the earth to the depth of 24 or even 18 inches, a knowledge of the nature of the soil, and its earthy constituents would seem to be indispensably necessary. It would be a very great mistake to suppose that the same results would ensue from bringing to the surface the deep rich alluvion of our rivers, or the stiff subsoil of the neighboring hills; but scarcely less to imagine the same course of culture would be advisable on a soil containing more than 30 per cent of clay, that would be advisable and successful on one containing not more than 8 or ten. I must further say it appears to me, that the somewhat conflicting opinions that seem to be entertained on the subject of the soils under discussion, and their proper mode of treatment, arise from a limited view of this class of soils, and from not sufficiently considering the very great diversity of proportion existing in their constituents. Each writer seems to consider his subsoil a type of all the rest, and of course concludes that the system he has found useful must be applicable every where. If the introduction of the subject into the colums of the Farmer shall be the means of dispelling this illusion;—demonstrate the necessity of a more thorough knowledge of soils;—or bring into general use, where admissible, a system that promises so much as the one recommended by Mr. Allen, the space occupied, could hardly have been better employed; at least, such is the opinion of a subscriber, and an

EASTERN FARMER.

WOOD LOTS.

MR. TUCKER—Such improvements as are to benefit, not only the present, but future generations, ought to meet with the hearty reception, and receive the co-operation of every individual, who can in the least contribute to their advancement.

Perhaps there is no part of the farmer's possessions, that receives so little attention, in regard to cultivation and improvement, as his wood lot. Year after year he continues to prostrate the timber, which usually consists of the handsomest and most valuable, seemingly without even thinking that the forest will ever fail to furnish him all that he shall ever need. But time will tell another story. It is an indisputable fact, that wood lots, in different sections of our country, are becoming considerably thinned, and if some method is not established to make them permanent, they will, before many years have passed away, but inadequately supply the demands for fuel, fencing, &c. The subject certainly merits the consideration of every farmer, who has hardly a sufficiency of timber on his wood lot to afford him a supply for the various uses he has indispensably to apply it to. It also claims the attention of those who have enough and to spare at the *present;* for the time will ere long arrive, when they will find that by constant use, (unless they have a superabundance,) their wood lot will fail to furnish them an adequate supply. And further, if they are well-wishers of mankind, they will be desirous of conferring upon their successors the necessary blessings which a bountiful Providence has conferred upon them. A farmer, for instance, has his 50, 100 or 200 acres of land, which is under cultivation, except a certain portion, on which the timber has been kept for a wood lot. Out of this he gets his firewood, fencing, building frames, &c. Some of the trees are blown down, others decay and crumble to the ground. In a few years the larger growth is gone, the next follows the same fate, and so on. In the course of *years* the whole timber is swept from the lot, unless new growths are advancing to take the place of those that have preceded. The idea is, therefore, submitted for consideration, whether it would not be the best procedure to fence wood lots, in order to keep out cattle, sheep, &c., that the young plants which are to be seen every few years under their parent trees, may not be destroyed. The result of such a practice, could not fail to have the desired effect. The young plants would make their appearance, and instead of being naked and stripped, our wood lots would be complete thickets. A sufficient number of the largest and most thrifty would take the lead, so that a handsome growth would soon be under way. This is plainly demonstrated in the sapling or last growth now to be seen in the woods. And so they would continue to follow in succession, as room was made by removing the larger trees; for when the larger ones are removed, the next growth rapidly advances and takes their place.

A wood lot in an adjoining town was fenced in a few years since, the cattle and sheep have been kept out, and the result has been as was anticipated. It is now a complete thicket of small trees. Roads have been made through it in different directions for the purpose of getting wood, otherwise it would be impossible to get through it with a team. Was this course pursued by every farmer or owner of a wood lot, the result would be the same; it would add to the permanence, greatly enhance the value, and, in my opinion, very much add to the beauty of woods. The whizzing of the partridge and the song of many a bird would greet the ear, where nought but the rustling of the leaves is now heard.

There is another way still, that the improvement of wood lots might be greatly advanced. That is, by transplanting such trees as are valuable and not already in the lot. In the thinned places, a number of locusts might be inserted; also, the oak, hickory, ash, &c. On the sides, where the prevailing winds have blown down the larger trees, there is usually considerable land that is useless, or would be if cattle, &c. were excluded. Here, also, trees might be transplanted, or the locust propagated from the seed to very great advantage.

The above suggestions have been hastily written.—Should W. G. think the subject worth notice, the writer would be highly gratified with an essay from his able pen.

Cayuga Co., May, 1838. CULTOR.

ENTOMOLOGY.

MR. TUCKER—Could any one of your correspondents be induced to procure specimens of the various kinds of insects which prey on his produce, such as the *wire worm, grub, Hessian fly,* &c., in their different states, the specimens could readily be preserved in a bottle of spirits, whiskey or rum; and we should be able to examine and know what they really are, if we had the actual animal who perpetrated the mischief. I have known an intelligent farmer to collect as specimens of *a fly* preying on his wheat, not less than six different subjects, all unlike each other, and some of known difference in habit from the real predatory diptera.

What is the wire worm? What the "caterpillar?" The cut worm? Nobody can tell, in fact; and those who undertake to determine, look out for these names in English books, and give us the animals known by those appellations in Europe, but non-residents of our country. The wheat fly of Europe is the *Cecidomya tritici* of Kirby. The Hessian fly of America is the *Cecidomya destructor* of Say. And we may suppose, as being species of the same genus, these are alike in habit; but I never heard who the cut worm, wire worm, and the other general enemies of the farmer are in truth. It is a pity, that when injuries of an extensive nature are observed in the crops, at any stage of their growth, the farmer should not immediately call in the assistance of an experienced Entomologist, who would study the mode of operation, the history of its proceeding, and watch all the transformations of the particular insect that does the mischief. We should know the enemy, his manner of attack, time of appearance and disappearance, &c.; all of which are essential to the mode of remedy and destruction. If specimens could be obtained of the insect, in a manner to render it certain that it was the real cause of the injury, and in such states as to ascertain its history precisely, such specimens could easily be preserved in spirits so as to be sent to an Entomologist for determination; but the only way to be sure of the matter, is to take a stem of the grass attacked, if it is on grain they operate, with the worm at work in it. Take one specimen or more of the worm and put them in spirits; then insulate the grass, covering it with a glass vase, or gauze covering, so that when the worm is transformed it may be secured. This is attended with some difficulty, as it is necessary to watch constantly the operations and changes which the creature goes through; some of them descend into the earth to undergo their final transformation. The best way is to transplant the affected stems into a box of earth, which must be so covered as to secure the insect when he issues out of the cocoon, and at the same time to admit air and light to the plant. But you doubtless know all this better than I, and I should, for one, be greatly pleased if some of your friends would make the subject of the *real discovery* of the farmer's enemies an object of attention in your most valuable and instructive publication. At this moment, I recollect of but two of these out of the tens of thousands, which have been determined with accuracy; and one of these yet requires further research, viz: the Cecidomya destructor of Say, the alleged Hessian fly, and the Ægeria exitiora of Say, the peach worm as called. A. H.

Brooklyn, L. I., May 1, 1838.

Hoof-Ail not caused by Ergot.

MR. TUCKER—I have noticed in the present volume of the Genesee Farmer various opinions as to the cause of the disease called hoof-ail in cattle. It is to be regretted that this disease is not better understood. I will give you my views from facts that have come under my own observation. I am averse to the notion that it is caused by the ergot of spire grass. My reasons are these. One neighbor has lost a number of head, some cows and some calves. Now if ergot causes the disease in one case, it must in all—if in the hind feet, why not in the fore feet? It appears, however, that it never attacks the fore feet. Now, sir, in my humble opinion, it is nothing but freezing. Those cattle, when first discovered to be ailing, their feet and ankles of the hind legs were frozen completely stiff, and all at one time. The cause of their freezing was supposed to be owing to their going into the brook the night previous to drink, which caused the snow and mud to form snow balls, which were actually knocked off the next day. While cattle are lying down, the hind feet are more exposed than the fore, and which accounts for the fore ones not being affected. One pair of oxen included in this lot, are perfectly sound. They were fed principally on hay, some stalks and some straw.—Another farmer has four or five head, out of a large stock, that have the same disease, which he told me had eat nothing but straw. Another says he can scrape a half bushel of ergot off his barn floor, where he has fed his cattle daily, and no symptoms of disease among them. From the first of February, I have fed nine head of cattle from a stack that contains abundance of ergot, and there is not the least symptom of a diseased hoof among them. I. H.

Ithaca, April 22, 1838.

Bees.

In the spring the board on which a bee hive sets, should be taken out and thoroughly cleaned; remove the dead bees, and wash the board in soap suds, scraping it well. If this be not attended to, the bees will be more liable to disease. Make a white wash of lime, and put in some salt, and white wash the board under the hive, if the comb does not come down to the bottom. By this method we have cured bees when diseased, and we consider it a good preventive of disease. This white wash appears to be pleasant to the bees, and they will sometimes eat it freely; perhaps they eat it wholly on account of the salt, but the lime as well as salt is doubtless conducive to their health. As much light in a hive is not pleasant to bees, it may be well to put some dark substance, which has no taste or smell, into the white wash. We cannot say that this is necessary, but merely name it for consideration.—*Yankee Farmer.*

Gleanings by the Editor of the Farmer & Gardener.

Economical use of Manures.—Mr. *Parkinson* asserts that one great advantage of the drill husbandry, consists it putting the manure into drills, and that four loads of manure, thus applied, is equal to sixteen loads in the usual way of spreading it broadcast. He alludes, of course, solely to the crop to which it is applied, as no possible way by which so small a portion can be applied, could it exercise an extensive influence on subsequent crops.

Lime.—*Darwin* says that one great use of calcareous earth consists in uniting with the carbon of the soil in its pure or caustic state, or with that of vegetable or animal recrements during some part of the process of putrefaction; and thus rendering it soluble in water, by forming a hepar carbonis, somewhat like a hepar sulphuris produced by lime and sulphur, by which process carbon is rendered capable of being absorbed by the lacteal vessels of vegetable roots.

Marl.—*Anderson* gives the following strong fact, illustrative of the good effect of marl. He states that a piece of land on which a thick coat of shell marl was laid, bore good crops for *forty years*, without additional improvement.

Quincy describes it as a kind of clay which is become *fatter*, and of a more enriching quality, by a better fermentation, and by its having lain so deep in the earth as not to have spent or weakened its fertilizing quality by any product; that it is much of the nature of chalk, and is believed to be fertile from its salt and oily qualities.

Hill understands by the term *marls* simple native earths, less heavy than clay; and

Child affirms that, marling to improve the soil, is of very ancient date.

Crabb delineates it as a *fat* earth, consisting of clay and the carbonite of lime, in which the latter prevails, and as being particularly useful as manures in barren land.

Bacon says marl is the best compost, as having most *fatness*, and not heating the ground too much.

The very meaning of the word signifies *marrow*, or the *fatness* of the earth, which was doubtless derived from its meliorating tendency as a manure.

Soot, says Sir Humphrey Davy, doubtless owes a part of its efficacy to the ammoniacal salts it contains.

As a top dressing for turneps or grass lands, there is nothing superior to it.

Ammoniacal Liquor.—The same author asserts, that the liquor produced by the distillation of coal, contains carbonate and acetate of ammonia, and is said to be a very good manure; and in corroboration of his assertion, states, that in 1808, he found the growth of wheat at Rochampton assisted by a very weak solution of acetate of ammonia. We conclude from these premises, that the ammoniac liquor, which is daily drawn off and wasted, at gas generating establishments, would be a most efficacious ingredient in all composts, and that, where convenience and distance justified the hauling of it, it would be found eminently useful for almost all the purposes of agriculture.

Salt.—Sir *Humphrey Davy* says, that *common salt*, in small quantities is a useful manure.

Sir *John Pringle*, in giving its *monus operandi*, asserts, that in small quantities it assists the decomposition of animal and vegetable manure.

Sir *Humphrey Davy* further remarks, that the refuse salt in Cornwall, which contains some of the oil and *exuvia of fish*, has long been known as an admirable manure.

A good way to encourage the growth of Silk.

A number of gentleman, inhabitants of Massachusetts, Connecticut and New Jersey, have requested the American Institute, by letter, to offer a prenium at their next Annual Fair, for the greatest quantity of Sewing Silk to be raised on not less than one-sixteenth of an acre of land by a succesion of crops in a single season. Satisfactory evidence to be given of the same to the managers of said Institute on or before the next fair; together with the weight of mulberry leaves consumed, the weight and number of cocoons produced, and the weight of waste silk and floss, and the number and quantity of the trees set on this land, the amount of land and also the weight of leaves which may from necessity be borrowed from any source to complete the experiment, to be certified to the Institute on oath or affirmation.

To enable the American Institute to carry this proposal into effect, they have forwarded a joint and several obligation payable on or before the first day of October next, for One hundred Dollars.

At a lage meeting of the Institute, the proposal was unanimously accepted. Silk is one of the articles of foreign growth which has been imported of late years to an enormous amount. If our influential fellow citizens will follow the above example we may soon become exporters instead of importers of Silks. We think editors of papers disposed to encourage the growth of silk and thereby contribute to the independence of our country, will do well to publish the foregoing. It is a good example. Other useful productions may be encouraged in the same way.—*N. Y. Star.*

Wintering Bees in a Cellar.

As a small hive of bees suffer from cold when they stand out, and they eat a great deal more honey in proportion to their numbers than a large swarm, it has been recommended to keep them in the cellar during winter; in this way a feeble swarm will not suffer from cold, and a very little honey will be sufficient to sustain them till spring. A friend of ours says that he had a very small swarm of bees last fall, and all the comb that they had was not more than a hat full, filling only one corner of the hive; he put them in a dark cellar when the cold weather commenced, leaving the entrance of the hive open; a few days since he brought them up and set them out of doors and they were alive and well.—*Yankee Far.*

Radishes.

This root being liable to be eaten by worms, the following method is recommended for raising them: Take equal quantities of buckwheat bran, and fresh horse-dung, and mix them well and plentifully in the ground by digging. Suddenly after this, a great fermentation will be produced, and numbers of toadstools (kind of mushroom) will start up in forty-eight hours. Dig the ground over again and sow the seed, and the radishes will grow with great rapidity and be free from the attacks of insects. They will grow uncommonly large. Buckwheat bran is an excellent manure itself.—*Farmers' Assistant.*

Spring Wheat.

A NEW supply of Siberian Bearded Spring Wheat, just received at the Rochester Seed Store This wheat will generally succeed well, if not sown later than the 20th of May.
May 12 REYNOLDS & BATEHAM.

Early Seed Potatoes.

EARLY Manley or June, and Early White Kidney Potatoes, together with a great variety of other choice kinds, for sale at the Seed Store of
May 5 REYNOLDS & BATEHAM.

Drill Barrows or Planting Machines.

A NEW supply of Robbins' Patent Planting Machines, just received at the Rochester Seed Store.
Also, a number of Merchants' Patent Drill Barrows. [See No. 13, current vol. of the Genesee Farmer.]
May 5. REYNOLDS & BATEHAM.

Root Cultivation.

A LARGE supply of new and genuine Ruta Baga, Mangel Wurtzel, Sugar Beet and Orange Carrot Seed, just received at the Rochester Seed Store.
REYNOLDS & BATEHAM.
Rochester, April 21, 1838.

New and Rare Flower Seeds.

WE have just received from a London Florist, the following list of choice Flower Seeds, consisting mostly of new and beautiful annuals of recent introduction, which have been figured or described in the English Horticultural and Botanical Magazines.

They are put up in small papers, each kind distinctly labeled, and will be sold in packages of 20 varieties for $1, or 50 varieties for $2. As the supply of some kinds is quite limited, those who wish large assortments should make early application.

☞ For a numerous list of other splendid Flowers, and directions for cultivation, see our General Catalogue.

New Turkish Aster,
Dbl. Indian or Chinese Pink,
Fine Carnation,
Sweet Scented Candytuft,
Double Dwarf Nigella,
Fine Scarlet Ten week Stock,
Scarlet Brompton Stock,
Bloody Wallflower,
New Silver Hawkweed,
Dbl. Dwarf Rocket Larkspur,
Fine Mixed Balsamine,
Striped Chinese Mallow,
Cacalia Coccinea,
Calendrina grandiflora,
discolor,
speciosa,
Campanula Loweii,
pentagonia,
Clarkia pulchella,
pulchella alba,
elegans,
Collinsia grandiflora,
bicolor,
Collomia coccinea,
Coreopsis (Calliopsis) tinctoria,
atkinsonia,
Eschscholtzia californica,
crocea,
Eutoca viscida,
multiflora.
Gilia capitata,
capitata alba,
achillæfolia,
tricolor,
Godetia rubicunda,
Helichrysum lucidum album,
Kaulfussia amelloides,
Lupinus bicolor,
mexicana,
pollyphillus,
micranthus,
mutabilis,
Cruickshankii,
nanus,
Leptosiphon androsacus,
Losthemia californica,
Madia elegans,
Malope grandiflora,
Nemophila insignis,
Nolana paradoxa,
atriplicifolia,
Œnothera Lindleyana,
Romanzovii,
Petunia nyctaginiflora,
Phacelia tanacetifolia,
tripinnatifida,
Schizanthus pinnatus,
Salpiglossis, fine mixed,
Zinnia grandiflora.

Note.—New flowers very seldom have any English names, and all Florists and Botanists prefer designating them by their scientific names, as they are much more correct and satisfactory. REYNOLDS & BATEHAM.
Rochester Seed Store, May 5, 1838.

Early Red-blazed Seed Corn.

THIS variety of Indian Corn is very productive; the ears are of good size, and by experiments made the past season, it was found to ripen earlier than almost any other variety, not excepting the celebrated Dutton. It is for sale by
May 5 REYNOLDS & BATEHAM.
☞ Many other choice varieties for sale as usual.

Gardening Notice.

AS vegetables will not grow during cold weather, it was of but little advantage to sow seeds early this spring. But those who have gardens unplanted, should remember that summer is at hand, and it is now a good time to sow such seeds as Peas, Parsneps, Lettuce, Cabbage, Cauliflower, Celery, Salsify, Onion, Early Beets, &c. as well as most kinds of Flower Seeds. It is scarcely necessary to add, that these, and all other kinds of Garden Seeds, of the best quality, may be obtained at the Rochester Seed Store, Arcade Hall. (May 5) REYNOLDS & BATEHAM.

Siberian or Tartarian Oats.

A GOOD supply of this valuable variety of oats—a genuine article—for sale at the Rochester Seed Store.

The numerous accounts which have been published respecting the qualities oft hese Oats, render any further recommendation entirely superfluous, at least to the readers of the Genesee Farmer.

Dr. Wm. C. Dwight of Moscow, has raised them for several years, and thinks them decidedly preferable to any other variety. He recommends sowing them very thick, (from 3 to 4 bushels to the acre,) as it renders them less liable to lodge. They yield with him from 70 to 80 bushels to the acre.
May 5. REYNOLDS & BATEHAM.

New Onion Seed.

YELLOW Dutch, Large Strasburg, White Portugal and Large Red Onion Seed, the growth of 1837, just received direct from England.

The crop of Onion Seed was almost a total failure in this country last season, and being unable to obtain a supply of NEW SEED in the United States, we last fall sent an order to England for a supply from that country. It has arrived in fine order, and we are confident will prove a superior article.
REYNOLDS & BATEHAM.
Rochester, April 21, 1838.

Great Arrivals
AT THE ROCHESTER SEED STORE.

WE have received by some of the first boats, *a number of* TONS *in weight* of English and American Field and Garden Seeds, Tools, Books, &c. Our assortment for the season is now full and complete, and we would inform our distant customers and agents, that their orders which have been already received, will be immediately attended to, and the articles put up and forwarded with all possible despatch.

The demand for seeds by wholesale during the winter was so great, that our fall stock of many kinds had become entirely exhausted; but the quantities now received are so great, and the varieties so numerous, that our friends need have no scruples about sending us extensive orders. We are so confident that these seeds will prove genuine, and give the best of satisfaction, that we feel a great degree of pleasure in offering them to the public. And we most cordially invite all who feel an interest in the advancement of Agriculture and Horticulture, to call and examine for themselves.

☞ Catalogues sent gratis to all applicants.
REYNOLDS & BATEHAM,
Nos. 3 and 5 Arcade Hall, Rochester, N. Y.
April 21, 1838.

Improved Durham or Short Horn Bulls.

THE subscriber has several yearling bulls of this very choice breed for sale, from direct imported stock; also, one half Devon and Durham do. A. B. ALLEN.
Buffalo, April 3d, 1838. ap 14-6w

Improved China, Berkshire and Tuscarora Pigs.

THE subscriber expects in the months of May and June, several litters of the above superior animals. The price of the Chinas, at 6 weeks old, per pair, will be $10,00
Berkshires and Tuscaroras, " " " 12,00
and for every month added to the above age of pigs, $1,25 will be charged on the price of the former, and $1,50 on the latter. These hogs are universally admired wherever known, and are considered the choicest and best breeds of England and America, returning the farmer a greater amount of pork for their feed than any others, and therefore the most profitable stock that can be kept.

The Improved Chinas are celebrated for the sweetness and delicacy of their meat, are easily kept fat in pasture without other food, being perfectly quiet and not wandering at all; are very handsomely spotted, a clear black and white, the colors about equal; have small short heads, ears and legs, with deep and broad bodies, and weigh from 300 to 400 lbs. according to keep at eighteen months old. There is nothing equal to these boars for crossing with other hogs, as they reduce their long coarse heads and legs, and give breadth and depth to their carcase quicker than any other kind. They have no affinity to what is commonly called the Grass breed of hogs, being of a distinct race, & entirely superior every way.

The Berkshires are highly prized for their lean, tender and juicy hams, are darker spotted than the above, and will weigh at the same age from 4 to 600 lbs.

The Tuscaroras are a cross of the China with the Berkshire and other superior breeds, have nearly the quietness and aptitude to fatten with the China, are of the same color, and weigh equal to the Berkshires. A. B. ALLEN.
Buffalo, April 3d, 1838. ap 14-6w

(Extracts from the Cultivator.)

Mixed Crop of Corn and Potatoes.—John Lorrain planted ten acres of Indian corn, in rows eight feet three inches distant, and hills with three plants at eighteen inches in the rows. Between each row he planted two rows of potatoes. The product was 430 3-4 bushels of corn, and 848 of potatoes, or 43 of corn and 84 of potatoes on each acre. At another time he obtained 50 bushels of shelled corn, and 150 bushels of potatoes from an acre. A gentleman has just assured us, that he made a similar experiment last summer, alternating two rows of corn, at two and a half feet, and two rows of potatoes, with very great success. This mode of culture gives to the corn the advantages of air and sun, which it requires, while the shade of the corn does not prejudice, or but partially, the growth of the potato crop.

Value of Ruta Baga.—Our neighbor Bement has kept twenty of his Berkshire hogs, mostly full grown breeders, from the first of November to the 15th of February, upon ruta baga and buckwheat bran, at the rate of six bushels of roots and one of bran per diem, fed them two raw meals a day, and one warm meal, boiled. When he began to feed with the roots, the hogs were low in flesh; at the termination of the three and a half months, they were too thrifty for breeding, and some of them fit for the butcher. He estimates that four quarts of corn to each hog per day, for the time they have been fed with the roots, would not have brought them into a better condition than they now are. What then has been to him the value of his ruta baga?

Four quarts of corn per day to each hog, would have amounted, in the 105 days, to 262 bushels, which, at 75 cents per bushel would be	$196 50
Add 105 bushels buckwheat bran, at 15 cts.	17 50
And it shows that the ruta baga was worth the balance, to wit,	$179 00

Which, divided by 630, the number of bushels fed out, gives the value of a bushel, used in this way, at about 28½ cents. Deduct for the cost of raising, the quantity being about the average product of an acre, four cents the bushel, and it shows a nett profit of 24½ cents per bushel, or of $154,25 per acre. We call this a demonstration of the profits of root culture.

Beet Sugar.—While on the subject, we will repeat, what does not appear to be generally understood, that *large roots do not yield near so much sugar, in proportion to weight, as roots that are of medium or diminutive size.* And further, a fact that we have seen demonstrated by three years' experience, after the beet has attained to maturity, which is known by the tops ceasing to grow, and the under leaves becoming shrivelled and yellow, *the roots deteriorate—the sugar is changed to potash—according to the time they are left in the ground after the plant has ceased to grow.* These remarks apply equally to the sugar beet, common beet and mangold wurtzel—whether raised for the table, for sugar, or for farm stock.

Dutton Corn.—There is nothing good and commendable but what has its counterfeit; and we regret to notice, that some late agricultural writers would not only make us answerable for the faults of the counterfeit, but responsible for the impositions which have been practised upon Mr. Thorburn, our worthy seedsman. Having cultivated the Dutton corn eighteen years, *without having it once materially injured by frost*, we ventured to recommend it as an excellent and *early* field variety for our latitude—but not as the *earliest* variety of corn. But it seems our neighbor Thorburn has sold seed, as Dutton corn, which was not early. It is proper to say, that *our* seed forms but a small portion of what Mr. Thorburn sells—and is generally off his hands early in January. Mr. Wm. Thorburn has been imposed upon, and has bought and sold seed, as Dutton corn, which was not such—and which he afterwards ascertained either did not grow, or did not ripen early.

Sheep-killing dog.—"A young dog, having wantonly bitten and mangled a large lamb, so that it died, was muzzled by one of my servants, and tied to the dead lamb, for a day and a night, and severely beaten. He was entirely cured of his propensity for chasing sheep, and would never afterwards approach them."—*Judge Peters.*

Vetches.—Vetches, sometimes called tares, are extensively used in England as a green crop, to be cut and fed green, like luzern and clover, to working and other cattle. They are of two kinds, winter vetches, sown in autumn, and cut in the spring, and summer vetches, sown in the spring, and cut at mid-summer, in time to sow the ground with winter wheat or rye. The late Chancellor Livingston made experiments in cultivating them as a fallow crop, in 1794, and the result is recorded in the memoirs of the old society. Sown upon a light loam in May, and plastered, they produced a good crop. They were cut when in bloom, in August, and cured like hay. The product was about 25 cwt. Three bushels were sown upon a slaty gravel and plastered. These were intended for seed; but contiued to grow, while the seed at the bottom was moulding and wasting; they were five feet long in October, but only three pecks of seed was obtained. The summer vetch has been tried in this neighborhood. It gave a great product in vines, but very little seed. Cattle are fond of them, and if the seed could be readily procured from abroad, they might no doubt be profitably cultivated, on a small scale, for working cattle or milch cows, particularly in the vicinity of large towns, where pasture is scarce.

Experiments in feeding roots.—W. Catton, of Lenox, N. Y. writes us, that he has gone to some extent in the culture of roots; that he has made several experiments in feeding them to stock; and that he finds carrots and sugar beets to be the most profitable for fattening cattle, and the ruta baga for milch cows and sheep. He raised the sugar beet at the rate of 1,000 bushels to the acre, and thinks them preferable to the mangold wurtzel.

Ruta baga in Pennsylvania.—S. Mayleet, who dates at Montrose, Susquehannah county, assures us that he raised last year, 1,100 bushels ruta baga upon 132 perches land, equal to 1,333 1-3 bushels on the acre. Mr. M. boiled the roots, and fattened his hogs upon them, with the addition of coarse grain provender, and his pork, he says, is excellent. The roots were grown in drills two feet apart, with intervals of ten inches between the plants—beech and maple soil, highly manured.

Profits of the Dairy.—Below is a statement of the amount of butter and cheese made from my dairy of six cows in eight months of last season, which I think will do credit to the farming and dairy interest in this town.

1448 lbs. cheese, which sold at my door at 7¼ cts.	$104 88
452 lbs. cheese at 8 cts.	36 16
415 " butter at 18 cts.	77 85
	$218,89

Making an average of $36,48 1-6 per each cow.

Potatoes.—As much difference of opinion exists, whether large, small or medium size potatoes are best for seed, I made a trial of the two extremes in the following manner, viz. by planting two rows with one potato of the largest size in each hill; then two with three of the smallest in each hill, placed in a triangular form, four inches apart, soil similar and very rich. Result—the potatoes from the first two rows were generally larger than those from the other two, (though all were large, and the yield about one-sixth greater.) As truth is said to lie between extremes, as a general rule, perhaps this case is not an exception.

Ploughing old Meadows.—I would reiterate your oft-repeated recommendation, to plough up old worn-out meadows, and keep them in tillage two or three seasons. My own experience, though not great, enables me to say that on a piece of meadow thus renovated, I have for several years cut triple the amount of its former product.

Rotation of crops.—There need not be a stronger argument adduced, in favor of the system of alternating crops, than a condition which is generally inserted in the Scotch leases—*prohibiting the tenant from taking two white crops*, i. e. of small grains, *in succession*, from the same field—because such repetition tended to impair the intrinsic value of the land.

Liming.—"I have been in the practice of using lime for twenty-five years; there is little of the land that I occupy that has not had 200, and some 300 bushels per acre, applied in that time. In my first applications, it was slaked, spread and incorporated with the soil as soon as practicable from the kiln. But for more than twenty years I have spread but little that has not lain from three to twelve or more months, and when spread avoided all means that would incorporate it with the soil, that necessity did not urge for the accomplishment of other objects. The change was the fruit of a doubt of the ultimate utility of using lime to hasten the decomposition of vegetable matter contained in soil under regular cultivation, and that this questionable advantage was all I conceived I had to place against the known and certain result, that by so applying it, it would be converted into carbonate at the expense of a material contained in the soil that there was, or in future would become, capable of supporting a vegetable; and that so far as it could be converted into a carbonate, before mixed with soil, was clear gain; and I regard my experience as having fully sustained the conclusion."

A sentiment of Franklin.—"I think agriculture the most honorable of all employments, being the most independent. The farmer has no need of popular favor, nor of the favor of the great; the success of his crops depending only on the blessing of God upon his honest industry."

Value of Gypsum.—Barnabas Miller, of Catharine, Chemung, has sent us the result of some experiments with plaster. A row of potatoes not plastered yielded 49½ pounds of tubers, while a row along side, which he plastered, gave 90 pounds—a difference of nearly onehalf in favor of the plastered row. Mr. Miller says the difference upon his corn was nearly the same, a table-spoonful being applied to each hill, after the first hoeing. The soil a gravelly loam. Mr. M. recommends the sowing a bushel an acre on grass grounds, about the first of May, and he thinks its benefits are manifest the second season. We join Mr. M. in begging farmers who do not use plaster to *try it*—on their meadows and pastures, on their corn, potatoes, &c.

State Policy.—Maine has paid to her farmers more than $76,000 as a bounty upon wheat raised by them last year. Thus Maine, with a population of less than 400,000, gives 76,000 dollars, annually from her public treasury, directly in aid of agriculture. New-York, with a population five times as large as Maine, gives—*nothing!!* What WILL she give?

"To avoid the Bee-moth."—Let your bee-house and hives be kept well white-washed, also the short boards on which each hive stands, particularly the underside; on each, place two or three quarts of fine earth, one part salt, mixed, for the hive to rest upon. Change once or twice during summer. I found good cause to abandon placing bees on the ground, as had been recommended twenty years ago.

Morus Multicaulis.

A FEW hundred genuine Morus Multicaulis, or Chinese Mulberry trees, just received and for sale by
May 5 REYNOLDS & BATEHAM.

Fruit Trees for Sale.

THE subscriber respectfully informs his friends and the public that he has for sale at his Nursery in Rochester, Monroe county, state of New York, a large quantity of Fruit Trees, grafted and innoculated with the most approved kinds, now fit for transplanting, which he will sell on the most reasonable terms. SAMUEL. MOULSON.
apr 15-tf

N. B. Cash will be paid for a few thousand two years old Apple Trees

Superior Garden & Agricultural Seeds.

THE subscriber has now on hand a full supply of Garden and Field Seeds, growth of 1837, among which are the finest Cabbages, Cauliflowers, Broccoli, Radishes, Peas, &c. that are cultivated in England, France, and Holland, together with every sort that can be raised to advantage in our own country, and which are grown expressly for my use from stock furnished and raised by the most experienced gardeners in this country; in short, every article emanating from my store, warranted genuine and fresh.

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April 1, 1837. ASA ROWE.